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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/613,919

07/03/2003

James J. Spilker JR.

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10/17/2007

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EXAMINER

INGVOLDSTAD, BENNETT

ART UNIT

PAPER NUMBER

4178

MAIL DATE

DELIVERY MODE

10/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/613,919

Applicant(s)

SPILKER, JAMES J.

Examiner

Bennett Ingvaldstad

Art Unit

4178

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ALL.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: television antenna 116, mentioned in [0028], [0030], etc.
2. The drawings are further objected to because reference characters 108 and 110 appear to be swapped in the specification paragraphs [0028], [0030], etc. Reference character 108 appears to designate a GPS antenna in contradiction to the specification, where reference character 108 designates a television station. Reference character 110 appears to designate a television station in contradiction to the specification, where reference character 110 designates a GPS antenna.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-18, 20-24, and 26-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Kupnicki (US 6191821).

Regarding claim 1, Kupnicki discloses an apparatus comprising:

- a front end adapted to receive a television signal comprising a synchronization signal representing precise timing information derived from a satellite signal (receiving station receives information comprising time code data [col. 5 57-62] derived from GPS satellite data [col. 2 57-60]); and
- a synchronization unit adapted to obtain the precise timing information from the television signal, and further adapted to provide a clock correction signal based on the precise timing information (receiving station uses time code data to correct a clock in order to align different content signals [col. 5 line 57 – col. 6 line 3]).

Regarding claim 8, Kupnicki discloses an apparatus comprising:

- front end means for receiving a television signal comprising a synchronization signal representing precise timing information derived from a satellite signal (receiving station receives information comprising time code data [col. 5 57-62] derived from GPS satellite data [col. 2 57-60]); and
- synchronization means for obtaining the precise timing information from the television signal, and further adapted to provide a clock correction signal based on the precise timing information (receiving station decodes time code data and corrects a clock in order to align different content signals [col. 5 line 57 – col. 6 line 3]).

Regarding claim 15, Kupnicki discloses a method comprising:

- receiving a television signal comprising a synchronization signal representing precise timing information derived from a satellite signal (receiving station receives information signal, which may be a television signal [col. 3, 26-30], comprising time code data [col. 5, 57-62] derived from GPS satellite data [col. 2, 57-60]);
- obtaining the precise timing information from the television signal (receiving station decodes time code data [col. 5, 57-62]; and
- providing a clock correction signal based on the precise timing information (receiving station decodes time code data and corrects a clock in order to align different content signals [col. 5 line 57 – col. 6 line 3]).

Regarding claim 21, Kupnicki discloses a computer-readable media embodying instructions executable by a computer to perform a method (slave synchronizing generator operates using a software program [col. 3 line 66 – col. 4 line 3]) comprising:

- receiving a television signal comprising a synchronization signal representing precise timing information derived from a satellite signal (receiving station receives information signal, which may be a television signal [col. 3, 26-30], comprising time code data [col. 5, 57-62] derived from GPS satellite data [col. 2, 57-60]);
- obtaining the precise timing information from the television signal (receiving station decodes time code data [col. 5, 57-62]; and
- providing a clock correction signal based on the precise timing information (receiving station decodes time code data and corrects a clock in order to align different content signals [col. 5 line 57 – col. 6 line 3]).

Regarding claim 27, Kupnicki discloses an apparatus comprising:

- a satellite time receiver adapted to receive a satellite signal from a satellite, the satellite signal comprising precise timing information (master sync generator accepts an absolute time reference input [col. 3 42-46] which may be a GPS satellite [col. 2 57-60]); and

- a television transmitter adapted to generate a television signal comprising a synchronization signal based on the precise timing information, and further adapted to transmit the television signal (col. 3 26-42 & Fig. 1).

Regarding claim 30, Kupnicki discloses an apparatus comprising:

- satellite time receiver means for receiving a satellite signal from a satellite, the satellite signal comprising precise timing information (master sync generator accepts an absolute time reference input [col. 3 42-46] which may be a GPS satellite [col. 2 57-60]); and
- television transmitter means for generating a television signal comprising a synchronization signal based on the precise timing information, and for transmitting the television signal (col. 3 26-42 & Fig. 1).

Regarding claim 33, Kupnicki discloses a method comprising:

- receiving a satellite signal from a satellite, the satellite signal comprising precise timing information (master sync generator accepts an absolute time reference input [col. 3 42-46] which may be a GPS satellite [col. 2 57-60]);
- generating a television signal comprising a synchronization signal based on the precise timing information (col. 3 26-42 & Fig. 1); and
- transmitting the television signal (Fig. 1).

Regarding claim 36, Kupnicki further discloses a computer-readable media embodying instructions executable by a computer to perform a method (master sync generator operates using a software program [col. 3 57-66]) comprising:

- receiving a satellite signal from a satellite, the satellite signal comprising precise timing information (master sync generator accepts an absolute time reference input [col. 3 42-46] which may be a GPS satellite [col. 2 57-60]);
- generating a television signal comprising a synchronization signal based on the precise timing information (col. 3 26-42 & Fig. 1); and
- transmitting the television signal (Fig. 1).

Regarding claims 2, 9, 16, 22, 28, 31, 34, and 37, depending on claims 1, 8, 15, 21, 27, 30, 33, and 36, Kupnicki further discloses:

- wherein the satellite is a global positioning system satellite (col. 2 57-60).

Regarding claims 3, 10, 17, and 23, depending on claims 1, 8, 15, and 21,

Kupnicki further discloses:

- a local clock adapted to generate a precise clock signal based on the clock correction signal provided by the synchronization unit (a delay device delays the signal appropriately based on the time code [col. 5 57-62], which implies a clock – also [Fig. 5]).

Regarding claims 4 and 11, depending on claims 3 and 10, Kupnicki further discloses:

- an antenna adapted to receive the television signal from a transmitter of the television signal, and further adapted to provide the television signal to the front end (receivers receives information signals [col. 5 57-62] e.g. television signals [col. 4 28-32] which may be over-the-air broadcasts [col. 1 40-50] thus requiring an antenna); and
- a clock offset unit adapted to provide an offset signal based on a propagation delay between the transmitter of the television signal and the antenna (delay device delays a content signal to align it with another signal's transmission time [col 5 line 57- col 6 line 3]; therefore the delay is the difference of the signals' respective propagation delays);
- wherein the local clock is further adapted to generate the precise clock signal based on the offset signal provided by the clock offset unit (the clock signal is decoded from time code data and used to align the signals [col 5 line 57- col 6 line 3]).

Regarding claims 5 and 12, depending on claims 4 and 11, Kupnicki further discloses wherein:

- the clock offset unit is further adapted to provide the offset signal based on a tropospheric propagation velocity in the vicinity of the antenna (if at least one of the received signals is an over-the-air broadcast signal [col 1 40-

50] then the delay between reception times [col 5 line 57 - col 6 line 3] will be based on a tropospheric propagation velocity in the vicinity of the antenna).

Regarding claims 6 and 13, depending on claims 1 and 8, Kupnicki further discloses:

- A telecommunication switch comprising the apparatus of claim [1/8] (receiving unit may be a slave generator [claim 6 (b)], which encodes input signal and switches it to one of several outputs [Fig. 1]).

Regarding claims 7, 14, 20, 26, 29, 32, 35, and 38, depending on claims 1, 8, 15, 21, 27, 30, 33, and 36, Kupnicki further discloses wherein the television signal is selected from the group comprising:

- an American Television Standards Committee (ATSC) digital television signal [col. 3 22-25];
- an Integrated Services Digital Broadcasting-Terrestrial (ISDB-T) signal;
- a European Telecommunications Standards Institute (ETSI) Digital Video Broadcasting - Terrestrial (DVB-T) signal; and
- a National Television System Committee (NTSC), Phase Alternating Line (PAL), or Sequential Color with Memory (SECAM) analog television signal (NTSC and PAL [col. 3 22-25]).

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Regarding claims 18 and 24, depending on claims 15 and 21, Kupnicki further discloses:

- determining a propagation delay between a transmitter of the television signal and an antenna that receives the television signal (a delay is calculated in order to synchronize signals [claim 1 (d)]); and
- providing the clock correction signal based on the precise timing information and the propagation delay (content is aligned based on time code data which implies a clock correction signal [col 5 line 57 – col 6 line 3])

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 19 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kupnicki (US 6191821) in view of Ogino (US 2002/0098839), further in view of Chisholm (US 3705404).

Regarding claims 19 and 25, depending on claims 18 and 24, Kupnicki does not further disclose wherein determining the propagation delay comprises:

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- determining a tropospheric propagation velocity in the vicinity of the antenna

In an analogous art, Ogino discloses an offset measuring apparatus that calculates a radio wave propagation delay using a different method than the one disclosed by Kupnicki. A radio wave reception device calculates propagation delays by dividing the distance between a transmitter and a receiver by the propagation velocity of the radio wave ([0048]). Because both Ogino and Kupnicki disclose methods of calculating radio wave propagation delays, it would have been obvious to one skilled in the art to substitute one method for the other to achieve the predictable result of calculating radio wave propagation delay.

In an analogous art, Chisholm discloses that tropospheric propagation velocity is a function of altitude and can be determined in the vicinity of an antenna using a simple calculation (tropospheric propagation delay is calculated using an aircraft's altitude measurements [col 13 line 60 – col 14 line 3]).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine tropospheric propagation velocity in the vicinity of the antenna as disclosed by Chisholm for the purpose of accurately determining tropospheric propagation velocity [Chisholm col 13 64-67] in order to calculate propagation delay as disclosed by Kupnicki in view of Ogino. Therefore the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made.

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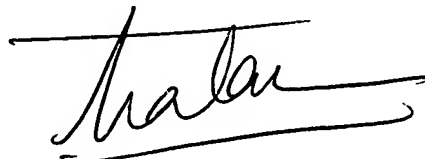
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bennett Ingvaldstad whose telephone number is (571) 270-3431. The examiner can normally be reached on M-Th 7-5:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hai Tran can be reached on (571) 272-7305. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BI

A handwritten signature in black ink, appearing to read 'Hai Tran', with a horizontal line drawn through the middle of the signature.

**HAI TRAN
PRIMARY EXAMINER**